

REMARKS

The Examiner objected to claim 39 as having no dependency and indicated that an appropriate correction is required. In response, Applicants have made the required correction by amending claim 39 to provide claim 39 with a dependency on claim 18.

The Examiner rejected claims 1, 5, 6, 14, 18-29, 31, 37, 39, 41, 43, and 48-50 under 35 U.S.C. §103(a) as allegedly being unpatentable over Christie et al. (5,668,059).

The Examiner rejected claims 1, 5, 6, 8, 18-20, 23, 25-29, 31, 39, 41, 44, and 46-50 under 35 U.S.C. §103(a) as allegedly being unpatentable by Arldt et al. (5,766,670).

The Examiner rejected claims 1, 5, 6, 8, 44, and 48 under 35 U.S.C. §103(a) as allegedly being unpatentable over Day et al. (6,444,407B1).

Applicants respectfully traverse the §103 rejections with the following arguments.

35 U.S.C. §103(a): Christie

The Examiner rejected claims 1, 5, 6, 14, 18-29, 31, 37, 39, 41, 43, and 48-50 under 35 U.S.C. §103(a) as allegedly being unpatentable over Christie et al. (5,668,059).

Applicants respectfully contend that claims 1, 5, 6, 14, 18-29, 31, 37, 39, 41, 43, and 48-50 not unpatentable over Christie, because Christie does not teach or suggest each and every feature of claims 1, 5, 6, 14, 18-29, 31, 37, 39, 41, 43, and 48-50. For example, Christie does not teach or suggest "a flexibilizing agent comprising 2 percent to about 5 percent by weight of said composition".

Applicants note that the Examiner has alleged that Christie teaches that the flexibilizing agent comprises a maximum of about 1.6 percent by weight of said composition, which is outside of the claimed range. Although the Examiner argues that it would be obvious to modify Christie such that the flexibilizing agent comprises 2.0 weight percent of said composition, Applicants will next demonstrate that such a 2.0 weight percent of flexibilizing agent would violate fundamental concepts of Christie's invention.

On page 3 of a previous office action mailed 11/08/2002, the Examiner presents a calculation showing that the maximum weight percent of the flexibilizing agent in the composition is 1.6%, based on Christie's disclosure that the maximum weight percent of the epoxy binder in the composition is 80% and the maximum weight percent of the flexibilizing agent in the epoxy binder is 2% (i.e., $80\% \times 2\% = 1.6\%$). Therefore, in order for the maximum weight percent of the flexibilizing agent in the composition to be as high as 2%, then either the maximum weight percent of the epoxy binder in the composition must sufficiently exceed 80% or the maximum weight percent of the flexibilizing agent in the epoxy binder must sufficiently

exceed 2%, or both. However, the maximum weight percent of the epoxy binder in the composition cannot exceed 80%, because to do so would force the filler weight composition to be less than 20%, and Christie requires the filler to have a minimum weight percent of 20% in the composition (see Christie, col. 10, lines 10-14).

Therefore, in order for the maximum weight percent of the flexibilizing agent in the composition to be as high as 2%, the weight percent of the flexibilizing agent in the epoxy binder would have to be 2.5% (i.e., $80\% \times 2.5\% = 2\%$). However, Christie utilizes the flexibilizing agent in the epoxy binder to impart desirable mechanical properties to the composition such as flexibility and thermal shock resistance, and Christie identifies this utility of the flexibilizing agent with a range of 0.7% to 2% weight percent in the epoxy binder (see Christie, col. 11, lines 14-24). Since Christie specifically discloses that 0.7% to 2% is the disclosed range of weight percent to achieve the preceding benefit of the flexibilizing agent, a person of ordinary skill in the art would have no reason to modify Christies invention to use 2.5% as the weight percent, which is outside of the disclosed 0.7% to 2% range.

Based on the preceding arguments, Applicants respectfully maintain that claims 1, 5, 6, 14, 18-29, 31, 37, 39, 41, 43, and 48-50 are not unpatentable over Christie, and that claims 1, 5, 6, 14, 18-29, 31, 37, 39, 41, 43, and 48-50 are in condition for allowance.

In addition, Applicants respectfully contend that claims 48-50 are not unpatentable over Christie, because Christie does not teach or suggest "wherein each particle has a diameter exceeding 31 microns". In particular, Christie requires that "[t]he particle size of the filler **must** not be greater than 31 microns ..." (emphasis added). The preceding "**must**" language in Christie

has the legal effect of delineating a precise sharply-defined upper limit of 31 microns to the particle size of the filler. Because of said strong language in Christie, Applicants contend that it is not obvious for the particle size of the filler to exceed 31 microns by *any* finite amount, no matter how small. Since claims 48-50 require the particle size of the filler to exceed 31 microns, Applicants respectfully contend that claims 48-50 are not obvious over Christie.

Applicants acknowledge that the Examiner has presented an argument as to why it would allegedly be obvious for the particle size of the filler to exceed the disclosed upper limiting value of 31 microns in Christie. Applicants note that the Examiner's argument is based on the idea that a value reasonably close to 31 microns has the same effect on the composition as does a value of exactly 31 microns. However, the Examiner has not taken into account the aforementioned sharply-defined cutoff of 31 microns in the Christie disclosure. Applicant respectfully maintain that a person of ordinary skill in the art would not consider it obvious to go above 31 microns, even by a very small amount, due the fact that Christie clearly teaches that the particle size of the filler **must** not exceed 31 microns. In other words, a filler particle size exceeding 31 microns is greater than the maximum filler particle size of 31 microns that is unconditionally and unambiguously **required** by Christie.

Based on the preceding arguments, Applicants respectfully maintain that claims 48-50 are not unpatentable over Christie, and that claims 48-50 are in condition for allowance.

35 U.S.C. §103(a): Arldt

The Examiner rejected claims 1, 5, 6, 8, 18-20, 23, 25-29, 31, 39, 41, 44, and 46-50 under 35 U.S.C. §103(a) as allegedly being unpatentable by Arldt et al. (5,766,670).

Applicants respectfully contend that claims 1, 5, 6, 8, 18-20, 23, 25-29, 31, 39, 41, 44, and 46-50 not unpatentable over Arldt, because Arldt does not teach or suggest each and every feature of claims 1, 5, 6, 8, 18-20, 23, 25-29, 31, 39, 41, 44, and 46-50. For example, Arldt does not teach or suggest "a flexibilizing agent comprising 2 percent to about 5 percent by weight of said composition".

Arldt's discussion of the flexibilizer is on col. 9, line 53 - col. 10, line 36, and Arldt does not disclose any weight percent range of the flexibilizer in the composition. Therefore, it cannot be obvious to use the claimed range of 2% to about 5%. There is simply no way to get to any numerical range of weight percent range of the flexibilizer in the composition of Arldt. There needs to be some disclosed range as a starting point for analysis, but Arldt is completely silent and provides no such starting point as to weight percent range of the flexibilizer .

The Examiner argues that one would have arrived at the claimed range through routine experimentation and optimization. Applicants respectfully disagree. Arldt discloses that the flexibilizer is added to impart flexibility and thermal shock resistance to the epoxy composition (see Arldt, col. 9, lines 53-56). However, Arldt doesn't provide the slightest clue as to how one would arrive at a flexibilizer weight percent that optimizes said flexibility and thermal shock resistance.

In fact, Applicants assert that there is no enablement in Arldt for selecting a flexibilizer weight percent, and a reference that lacks enablement cannot be used as a prior art reference.

Based on the preceding arguments, Applicants respectfully maintain that claims 1, 5, 6, 8, 18-20, 23, 25-29, 31, 39, 41, 44, and 46-50 are not unpatentable over Arldt, and that claims 1, 5, 6, 8, 18-20, 23, 25-29, 31, 39, 41, 44, and 46-50 are in condition for allowance.

In addition, Applicants respectfully contend that claims 48-50 are not unpatentable over Arldt, because Arldt does not teach or suggest "wherein **each** particle has a diameter exceeding 31 microns" (emphasis added). In particular, Arldt does not teach anything particle diameter for each particle of the filler. Instead, Arldt teaches only what the **average** particle size is (see Arldt, col. 3, lines 18-23). Applicants maintain that the average particle size says absolutely nothing about what each particles size is. Claims 48-50 claim that **each particle** has a diameter exceeding 31 microns, and average particle size is irrelevant to claims 48-50.

As an added note, Arldt's disclosure is unclear, because Arldt does not even indicate what kind of average he is talking about. There are all kinds of averages: arithmetic average, weighted average, geometric average, etc. There is no way of knowing what kind of average Arldt is disclosing.

Based on the preceding arguments, Applicants respectfully maintain that claims 48-50 are not unpatentable over Christie, and that claims 48-50 are in condition for allowance.

35 U.S.C. §103(a): Day

The Examiner rejected claims 1, 5, 6, 8, 44, and 48 under 35 U.S.C. §103(a) as allegedly being unpatentable over Day et al. (6,444,407B1).

In response, Applicant contends that Day cannot be used as prior art in rejecting claims of the present patent application, because "[e]ffective November 29, 1999, subject matter which was prior art under former 35 U.S.C. 103 via 35 U.S.C. 102(c) is now disqualified as prior art against the claimed invention if that subject matter and the claimed invention 'were, at the time the invention was made, owned by the same person or subject to assignment by the same person.'" MPEP 706.02(1)(1). First, the present patent application was filed on February 7, 2001 which is after November 29, 1999. Second, the Day patent is being considered by the Examiner as prior art under former 35 U.S.C. 103 via 35 U.S.C. 102(c), because the Day patent issued on September 3, 2002 which is after the filing date of February 7, 2001 of the present patent application. Third, both the subject matter of Day patent and the claimed invention of the present patent application were, at the time the invention was made, owned by International Business Machines Corporation or subject to assignment by International Business Machines Corporation. Accordingly, Applicant respectfully maintains that Day cannot be used as a prior art reference.

Based on the preceding arguments, Applicants respectfully maintain that claims 1, 5, 6, 8, 44, and 48 are not unpatentable over Day, and that claims 1, 5, 6, 8, 44, and 48 are in condition for allowance.

CONCLUSION

Based on the preceding arguments, Applicants respectfully believe that all pending claims and the entire application meet the acceptance criteria for allowance and therefore request favorable action. If the Examiner believes that anything further would be helpful to place the application in better condition for allowance, Applicants invites the Examiner to contact Applicants' representative at the telephone number listed below.

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